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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,009	05/05/2005	Guido Nykiel	016273.00400	2360

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EXAMINER
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KEMMERLE III, RUSSELL J

ART UNIT	PAPER NUMBER
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1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/534,009	<b>Applicant(s)</b> NYKIEL ET AL.	
	<b>Examiner</b> Russell J. Kemmerle III	<b>Art Unit</b> 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it is not in English or accompanied by an English translation along with a statement that the translation is accurate (see 37 C.F.R. 1.69, MPEP § 602.06).

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the following phrases render the claim indefinite:

“in particular rock wool” (line 2), since it is unclear if rock wool is a limitation of the claim or simply exemplary;

“at least from 38 to 64 % by weight of industrial residual materials” (line 4) since it is unclear what the amount of industrial residual material claimed is since it is claimed both as a range and at least that range;

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“particularly the correction materials and/or other components of the mixture”  
(lines 9-10) since it is unclear what the granular combustion residues are added to.

Regarding claim 6, the description of the combustion residue as being of “fine or extra fine grain size” renders the claim indefinite since it is not clear from the disclosure what qualifies as fine or extra fine grain size.

See MPEP § 2173.05(d). Claims 2-20 are rejected as being dependent on rejected independent claim 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 7-10, 12, 14, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraglund (WO 97/22563) in view of Bronshtein (US Patent 4,617,045).

Referring to claims 1-3, 9, 10, 16, 17 and 19 Kraglund teaches a method of creating briquettes to be used as a charge to be melted and formed into fibers. Specifically, the briquettes are to be formed from a mixture of alumina sand which had been used in foundry processes with other inorganic industrial waste material (page 6 lines 16-25). Kraglund specifically discloses creating a briquette of 52 wt% industrial residue (35 wt% wool waste, 12 wt% LD converter slag and 5 wt% power plant bottom ash) and 35 wt% foundry sand (i.e., correction material; 30 wt% bauxite foundry sand and 5 wt% olivine foundry sand) (page 9, example 1). The briquettes are generally made by use of a binder and compression of the materials to form the briquette (page 8, lines 11-14). An example of the amount of cement binder used is given as 13 wt% (page 9 example 1). Kraglund also discloses that the mixture used to make the bricks can include power plant ash or wood ash (i.e., combustion residues) as any amount of the industrial waste, depending on the desired final composition (page 6 lines 16-25), specifically giving an example of 5 wt% combustion residue (power plant bottom ash) (page 9 example 1).

Kraglund does not disclose that the industrial waste or correction material is reduced in size before being formed into the briquette.

Bronshtein teaches a method of forming waste products into a briquette, which is then melted and converted into fibers (abstract). Bronshtein discloses that larger pieces of waste used to make the briquettes should be reduced in size (Col 3 line 10) and that as the particle size is reduced less binder is needed to form the briquettes (Col 5 lines 31-35).

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It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have combined the fiber making method as taught by Kraglund with the teaching of Bronshtein to reduce the particle size of the materials before pressing them into a briquette since Bronshtein teaches that by reducing the particle size less binder is needed, which could make the process cheaper or provide better control over the composition of the briquette.

Referring to claims 4 and 14, Kraglund in view of Bronshtein is relied upon as discussed above. Kraglund further discloses that the briquettes formed as discussed above are placed into the furnace to be melted with extrusive rocks, specifically with diabase (page 9, example 1).

Referring to claim 7, Kraglund in view of Bronshtein is relied upon as discussed above. Kraglund further discloses a fiber composition substantially the same as that recited in claim 7 of the instant application (claim 4).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have used a combustion residue in the process of making a briquette as taught by Kraglund, and to have used a combustion residue with a composition similar to that of the final fiber as taught by Kraglund. This would have been obvious to one of ordinary skill in the art since using materials with compositions similar to the desired final composition would reduce the amount of other materials that would have to be added in order to reach the desired composition.

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Referring to claim 8, Kraglund in view of Bronshtein is relied upon as discussed above. Kraglund further discloses that the binder used to mold the briquettes is a cement binder (page 8 lines 14-15).

Referring to claim 12, Kraglund in view of Bronshtein is relied upon as discussed above. Kraglund further discloses that the fiber has a high alumina content to increase biological solubility (page 1 lines 2-7).

Referring to claim 18, Kraglund in view of Bronshtein is relied upon as discussed above. Kraglund does not disclose the addition of haematite or magnetite to the mixture to be turned into the briquette, however Kraglund does teach the briquette contain iron oxide as discussed above. Since haematite and magnetite are both forms of iron oxide, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to have added haematite or magnetite as a way to get the iron oxide content up to the levels taught by Kraglund.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraglund in view of Faulmann (US Patent 6,402,801).

Kraglund is relied upon as discussed above, but fails to teach that the combustion residue is produced by fluidized-bed combustion.

Faulmann discloses that fluidized bed combustion residue contains calcium oxide (CaO) (Col 2 lines 5-6).

It would have been obvious to one of ordinary skill in that art, at the time of invention by applicant, to have modified the method of forming briquettes for fiber making as taught by Kraglund, by using fluidized bed combustion residue which as

taught by Faulmann contains CaO. This would have been obvious to one of ordinary skill in the art since CaO is taught by Kraglund as a component of the briquette, and waste from fluidized bed combustion would be readily available and affordable and a good source of CaO.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraglund in view of Klein (US Patent 6,565,645).

Kraglund is relied upon as discussed above, but fails to teach that the combustion residue contain components from flue gas desulphurization.

Klein discloses that a large amount of gypsum (calcium sulfate) comes from flue gas desulfurization (Col 4 lines 27-33).

It would have been obvious to one of ordinary skill in that art, at the time of invention by applicant, to have modified the method of forming briquettes for fiber making as taught by Kraglund, by using gypsum which is readily available from flue gas desulfurization as taught by Klein. This would have been obvious to one of ordinary skill in the art since gypsum is a well known source of one of the materials listed in the composition recited in claim 4 of Kraglund (CaO), and as waste from flue gas desulfurization would be readily available and affordable.

#### ***Allowable Subject Matter***

Claims 11, 15, and 20 are objected to as being dependent upon a rejected base claim, but would currently be deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



Referring to claims 11, 15 and 20, prior art was not found that discussed the grain size of correction material or the combustion material.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell J. Kemmerle III whose telephone number is 571-272-6509. The examiner can normally be reached on Monday through Friday, 8:30-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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